CLAIMS

What is claimed is:

1. A projectile comprising:

a projectile body; and

a propelling charge holder separably coupled to the projectile body; and

external propelling charge increments at least partially surrounding the propelling charge holder segments.

2. The projectile of claim 1, wherein the propelling charge holder includes multiple propelling charge holder segments that are separable from one another during flight of the projectile.

3. The projectile of claim 1, further comprising an internal propelling charge increment in a chamber enclosed by the propelling charge holder.

4. The projectile of claim 3, wherein the segments have holes therein that allow communication between the chamber and the external propelling charge increments.

5. The projectile of claim 3, further comprising an igniter holder and an igniter that are both at least partially in the chamber.

6. The projectile of claim 1,

further comprising fins hingedly coupled to the body;

wherein the fins may be retracted or deployed.

7. The projectile of claim 6, wherein the fins, when retracted, press against propelling charge holder segments of the propelling charge holder.

8. The projectile of claim 7,

wherein the fins press against a central portion of the propelling charge holder segments; and

wherein the central portion of the propelling charge holder segments is closer to a centerline of the projectile than ends of the propelling charge holder segments.

9. The projectile of claim 8, wherein one of ends of each of the propelling charge holder segments is a hooked end that engages an aft protrusion of the projectile body.

10. The projectile of claim 9, wherein the aft protrusion includes a flange that is engaged by the hooked ends.

11. The projectile of claim 9, wherein the fins each have a notch into which the hooked ends at least partially protrude when the fins are retracted.

12. The projectile of claim 1,

wherein the propelling charge holder segments have a curved free shape; and

wherein an inward radial force is applied to the propelling charge holder segments to combine them to form the propelling charge holder.

13. The projectile of claim 12,

further comprising fins hingedly coupled to the body;

wherein the fins may be retracted or deployed; and

wherein at least part of the inward radial force is supplied by the fins when the fins are retracted.

14. The projectile of claim 12,

further comprising an igniter holder with annular flange;

wherein at least part of the inward radial force is supplied by annular flange.

15. The projectile of claim 12,

wherein hooked ends of the propelling charge holder segments engage a flange on an aft protrusion of the body, when the inward radial force is applied to the propelling charge holder segments; and

wherein removal of the inward radial force causes disengagement of the hooked ends from the flange.

16. The projectile of claim 1,

further comprising fins hingedly coupled to the body;

wherein the external propelling charge increments have recesses for receiving therein the fins.

17. A projectile of claim 1,

wherein each of the external propelling charge increments includes a shell with a propellant within the shell; and

wherein the shell is made of a material that is consumed by combustion of the propellant.

18. The projectile of claim 17, wherein the material includes felted nitrocellulose.

19. The projectile of claim 17, wherein the propelling charge holder is also made of a material that is consumed by combustion of the propellant.

20. The projectile of claim 1, wherein the propelling charge holder is made of a material that is substantially consumed during combustion of the propelling charges.

21. The projectile of claim 20, wherein the propelling charge holder is threaded engaged with the projectile body.

22. The projectile of claim 20, wherein the propelling charge holder includes resilient fingers that engage the projectile body.